OPTIMIZING THE FORMATION OF YTTRIUM IRON GARNET (YIG) VIA RESPONSE SURFACE METHOD (RSM) FOR DIELECTRIC RESONATOR ANTENNA (DRA) APPLICATION

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RESPONSE SURFACE METHOD OPTIMIZATION FOR THE FORMATION OF YTTRIUM IRON GARNET AND ITS KINETIC STUDIES FOR DIELECTRIC RESONATOR ANTENNA APPLICATION MADE BY SOLID STATE SINTERING

by

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DECLARATION

I hereby declare that I am the sole author of this dissertation. This is a true copy of the dissertation, including any required final revisions, as accepted by my examiners. It has not previously submitted for the basis of the award of any degree or diploma or other similar title of this for any other diploma/examining body or university. I understand that my dissertation may be made electronically available to the public.

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LIST OF ABREVIATIONS

ANOVA	Analysis of Variance
BBD	Box-Behnken Design
BW	Bandwidth
CCD	Central Composite Design
CSM	Core Shrinking Model
CSSR	Conventional Solid State Reaction
DF	Degree of Freedom
DM	Dielectric Materials
DOE	Design of Experiments
DRA	Dielectric Resonator Antenna
Ea	Activation Energy
EV	Experimental Values
GBH	Ginstling-Brounshtein-Habert
GOF	Goodness of Fit
IRD	Incomplete Reaction Diffusion
ISM	Internal Standard Method
JMA	Johnson Mehl Avrami
LOF	Lack of Fit
MDM	Magneto-Dielectric Materials
MS	Mean Square
Nv	Number of Pores per Volume
Na	Pores per Unit Area
OPYIG	Optimized YIG